LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of Nature. *No notice is taken of anonymous communications.]*

The Forest-pig of Central Africa.

It may interest many of your readers to know that the "forest-pig" heard of, at the same time as the okapi, by Sir Henry Stanley, and later on by Sir Harry Johnston, has at last been obtained and presented to the National Museum by Mr. R. Meinertzhagen.

This gentleman first had news of it from the natives of Mount Kenya, and took great pains to secure a specimen, but only succeeded in obtaining pieces of skin, from which no idea of its affinities could be gathered. At last, however, in the Nandi Forest, near the Victoria Nyanza, at an altitude of 7000 feet, he received two skulls, one quite perfect, and some further portions of skin.

These trophies show that the animal represents a most interesting new genus connecting the aberrant wart-hog (Phacochærus) with the more ordinary Suidæ, such as Sus and Potamochærus. It agrees with the first named in the number of its incisors, and shows a tendency towards it in the development of the canines and the structure of the molars. On the other hand, in the general proportions of the skull it is more like Sus.

Altogether, if it cannot be called absolutely ancestral to Phacochærus, it must at least be looked upon as representing an early stage in the specialisation of that most remarkable type.

The animal itself is about as large as a wart-hog, and is well covered with long coarse black hair.

It is proposed to be called *Hylochoerus meinertzhageni*, and I hope to give a full description of it at an early meeting of the Zoological Society.

Oldfield Thomas.

British Museum (Natural History), October 7.

Appeal for Cooperation in Magnetic and Allied Observations during the Total Solar Eclipse of August 29–30, 1905.

Those who are in a position to take part in the above cooperative work are earnestly requested to make the necessary preparations and to put themselves in communication with the undersigned.

As this will be the best opportunity for some time to come to test and observe further the magnetic and electric phenomena which have been found to occur in connection with total solar eclipses, and as these phenomena are destined to play an important *rôle* in the theory of those variations of the earth's magnetism and electricity ascribed to outside forces, it is very much hoped that all countries through which or near which the belt of totality passes will organise and send in the field observing parties.

Owing to the minuteness of the expected magnetic effect, the burden of proof as to its association with the eclipse will largely consist, as in the two previous eclipses, in the connection of the times of the magnetic effects with the times of passage of the shadow cone at the various stations. The observing parties, therefore, should be distributed at intervals along as much of the entire belt as possible.

The above is merely a preliminary notification of the work proposed. Fuller details and suggested directions to be followed will be given later.

L. A. Bauer.

Department of Terrestrial Magnetism, The Ontario,
Washington, D.C., U.S.A.

Instinct and Reason in Dogs.

The following statements may be of interest to those of your readers who have at times discussed the question of instinct and reason in dogs.

A friend of mine was in a strange town, having with him an Irish terrier. Finding it necessary to fasten the dog up outside a house, he did so by tying it with a piece of cord. On coming out of the house he was just in time to see his own dog being led away by a strange dog holding the cord in his mouth, having bitten it through. My friend often takes this same terrier, together with a fox terrier, out with him when calling. He ties the fox terrier by a cord to the scraper; as often as not the Irish terrier bites through the cord and frees his friend.

My own fox terrier seldom if ever goes to the stables, and whilst I am absent from home for a few days remains in his usual place; but almost invariably on the day when I am expected back he pays frequent visits to the stable, and is anxious to go with the carriage if he sees it being got ready; at all other times he is not willing to go with the carriage unless I am in it. On the two last occasions when I was expected home the dog acted as previously, but, in addition, jumped into the carriage as soon as it was brought out of the coach-house, a thing which he has never done before.

E. W. P.

October 8.

Misuse of Words and Phrases.

As a constant reader of Nature and of papers read before scientific societies, I have been struck by what seems to me an inaccurate use of language by English men of science which is rarely chargeable upon Americans—which is, at any rate, at variance with American usage. I will illustrate with the following examples:—

One star is five light-years distant; another is twenty-five light-years distant. The English astronomer will say that the second is *five times farther away* than the first.

A mass of aluminium weighs one pound; a mass of lead of equal size weighs something more than four pounds. The English physicist will say that aluminium is *more than four times lighter* than lead.

Both expressions seem to me incorrect and unworthy of a man of science who endeavours to express himself accurately. In the one case he should say that one star is five times *as far away* as the other. In the other case the whole expression is vicious. Weight, heaviness, is an attribute of matter; lightness is absence, or deficiency, of weight. To say that one article is a certain number of times *lighter than* another is like saying of two vessels unequally exhausted of air that one is four times emptier than another.

It is good English—is it not?—to say that one article is twice as heavy as another. If it is twice heavier, it is three times as heavy.

I submit this criticism of an Anglicism as an offset to some one of many criticisms of Americanisms.

Boston, U.S.A. E. S.

NATURAL HISTORY ESSAYS.[1]

On the whole, Mr. Renshaw appears to have been well advised in re-issuing in book form the sixteen articles and lectures which constitute the volume before us, since several of them contain much important information with regard to species now verging on extinction, or which have been already exterminated, while all are eminently readable and full of interest. Whether the author has quite done himself justice in the title he has chosen for his work may be open to question, seeing that all the articles relate to a single subject, namely, the mammals of Africa. Undoubtedly the most generally interesting and important articles of the series are the two dealing with the quagga and the blaauwbok, next to which may perhaps be ranked those on the white rhinoceros, the pigmy hippopotamus, and the giraffe. The book is abundantly illustrated with reproductions from photographs, many of which, like the one here shown, are excellent examples of animal photography.

While there is much to commend in the work before us, there are also matters with which to find fault. In the first place, the author has not revised his articles

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[1] "Natural History Essays." By G. Renshaw. Pp. xiv+218; illustrated. (London and Manchester: Sherratt and Hughes, 1904.) Price 6*s.* net.

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so as to bring them up to date. A striking instance of this is afforded by the one on giraffes, which takes no notice of the new forms described in "Animal Life" for 1903, and in the *Proceedings* of the Zoological Society for the present year. A minor instance is the statement (p. 212) that the aard-vark is represented in the exhibition galleries of the Natural History Museum by a specimen mounted in 1841, that specimen having been removed considerably more than a year ago, and replaced by a new one. Again, on p. 56, Mr. Renshaw repeats his statement that an antelope skull in the Museum of the Royal College of Surgeons is that of the extinct blaauwbok, whereas Mr. O. Thomas has expressly stated in the *Field* that it pertains to the roan antelope. If the author adheres to his original view, he should at least have attempted to refute the statement of an expert like Mr. Thomas.

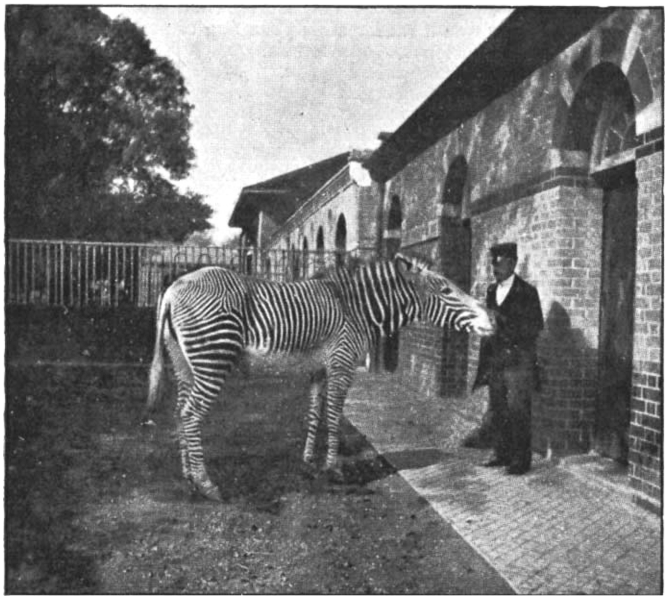

Fig. 1.—A Grévy's Zebra. From Renshaw's "Natural History Essays."

A further instance of what may be called "opinionism" on the part of an amateur is afforded by the case of the quagga in the Natural History Museum, which Mr. Renshaw, in opposition to the museum authorities, believes to be one which was brought to London in 1831. The evidence indicates, on the contrary, that this specimen is without doubt one received by the Zoological Society in September, 1858, which died, or was killed, in June, 1864, and was acquired by the museum in July of the same year, as is indicated by its register number (64.7.2.3). Equally erroneous, unfortunately, is the statement on p. 191 that the Amsterdam quagga was a Knowsley Menagerie specimen, as has been pointed out in a recent issue of the *P.Z.S.* *Per contra,* Mr. Renshaw is to be credited with pointing out that the quagga depicted in "Wood's Natural History" is one of the specimens living in the "Zoo" during the 'sixties, since the figure indicates an animal clearly identical with those represented in the "Knowsley Menagerie," and thus serves to identify the quaggas of the 'sixties with those figured in older works, which have been thought to be different. The reference to a statement made in 1801 as to the protective nature of the markings of the zebra (p. 165) is likewise a point on which the author is to be congratulated.

Reverting to errors, we may direct attention to the misappropriation of the name *Felis pardina* (p. 19) to the ocelot, of which the proper title is *F. pardalis*, *pardina* being the appellation of the Spanish lynx. In popular works the use of scientific names should, in our opinion, be mostly avoided, but if they are used they should be correct; a transposition of names like the above is every bit as bad as calling a lion a tiger! Another example of the necessity for care in the employment of scientific names in works of this nature occurs on p. 133. In one sentence on that page we find the name *Rhinoceros antiquitatis*, and later on the title "woolly rhinoceros," but there is nothing to indicate to the uninitiated that these denote one and the same animal.

If only the author had paid a little more attention to the revision of his articles he might have converted a very interesting volume into a really valuable record of the past history of several extinct and waning forms.

R. L.

DEVELOPMENTS OF THREE-COLOUR PHOTOGRAPHIC PROCESSES.[1]

II.

HAVING obtained the three colour records it remains to use them for locating the colour in the production of the final print. If the coloured lights are to be added, as in Ives's chromoscope, then a transparency is made from each colour record (which is, of course, a negative), and each transparency is made to furnish light of a similar colour to that of which it is the record. If the colours are to be superposed, as when they are printed one over the other, or when coloured transparencies are made and superposed in the method of making coloured lantern-slides, then a complementary colour to that of each record must be used, because the absorptions are added instead of the lights. In the chromoscope the colours are in the form of screens; they remain in the instrument, and therefore are provided once for all. In the other cases they are stains or inks, and an amount is used up in the production of each print; they are therefore used in quantity. In the choice of inks and stains, the perfection of colour is only a matter of degree, and those colours that most nearly approach perfection may not be suitable otherwise. The best colours may be (and in some cases are) fugitive, so that for practical purposes an inferior colour has to be used. If the colour is perceptibly different from the theoretical tint, then the colour records must be adjusted to make the best of the available colours. When the colours are superposed, as in printing on paper, at least two of the three inks must be made of transparent colours, or obviously the top colour would hide those beneath. This last matter is, as Hübl remarks, one of the most important difficulties in trichromatic work, and, he adds, the colour last printed will always predominate over those previously applied. Hübl, in his treatise, describes how to select the inks by means of his circular spectrum colour scheme, and how to mitigate the errors due to the defects of the selected colours, chiefly by retouching and by setting off one defect against another. The inks may be selected also by the use

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[1] "The Water-Colour Drawings of J. M. W. Turner, R.A., in the National Gallery." By T. A. Cook. Pp. vi+86 and 58 plates. (London: Cassell and Co., Ltd., 1904.) Price 3 guineas net.

"Three-Colour Photography." By A. F. von Hubl. Translated by H. O. Klein. Pp. 148. (London: A. W. Penrose, Ltd., 1904.)

"Photography in Colours." By R. C. Bayley. 2nd edition. Pp. 151. (London: Iliffe, Ltd., 1904.) Price 1*s*. net.

Continued from p. 555.

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